REMARKS

The present amendments and remarks are in response to the Office Action of March 23, 2005. Claims 1- 26 are currently pending. Claim 27 has been canceled.

Reconsideration of the application is respectfully requested in view of the following responsive remarks. For the Examiner's convenience and reference, the Applicant's remarks are presented in the order in which the corresponding issues were raised in the Office Action.

In the Office Action, the following rejections were issued:

(1) claims 1-8, 11-15, 18-24 and 27 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over copending Application No. 10/623270;

(2) claims 1-7, 11-14, 18-23, and 27 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over copending Application No. 11/035824;

(3) claims 1-7, 11-14, 18-23, and 27 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over copending Application No. 10/461022;

(4) claims 1-19 and 22-26 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Application No. 2004/0145088 (hereinafter "Patel"); and

(5) claims 20, 21, and 27 were rejected under 35 U.S.C. 103(a) as being unpatentable over Patel, in view of U.S. Patent No. 6,375,874 (hereinafter "Russell").

Obviousness-type Double Patenting Rejections

The Examiner has rejected several claims under the judicially created doctrine of obviousness-type double patenting as being unpatentable over copending applications 10/461,022, 10/623,270, and 11/035,824. Applicants respectfully request that these rejections be withdrawn as terminal disclaimers are filed herewith.

Rejections under 35 U.S.C. 103(a)

Before discussing the rejections under 35 U.S.C. 103(a), it is thought proper to briefly state what is required to sustain such a rejection. The issue under § 103 is whether the PTO has stated a case of *prima facie* obviousness. According to the MPEP § 2142, the Examiner has the burden and must establish a case of prima facie obviousness by showing some motivation in a prior art reference to modify that reference, or combine that reference with multiple references, to teach all the claim limitations in the instant application. Applicants respectfully assert the Examiner has not satisfied the requirement for establishing a case of *prima facie* obviousness in this rejection.

Rejections over Patel

Claims 1-19 and 22-26 were rejected under 35 U.S.C. 103(a) as being unpatentable over Patel. Patel discloses a process for forming a three-dimensional article. The three-dimensional article is produced by depositing a layer of a first material over the surface of a build platform within an enclosure (Paragraphs 0061 and 0063). A second material in the form of a liquid reagent is jetted onto the layer of the first material, such that the second material reacts with the first layer to form a cured lamina. These steps are repeated until a three-dimensional article is built-up of cured layers (Paragraph 0009). Patel further discloses, forming a three-dimensional article having complex shapes, (i.e. shapes having overhangs and spaces), by utilizing supports to sustain portions or overhangs of the complex parts and discarding the supports after the article is formed (Paragraph 0010). The supports referred to are referenced from another patent, U.S. Patent No. 5,059,266 (hereinafter "the '266 patent"). The '266 patent describes the supports as a mesh sheet being formed from the same material as the three-dimensional article (col. 11, lines 61-63 of the '266 patent). The mesh sheet enables the forming process for an article having a complicated shape such as an article having a rim portion.

After the article is formed, the undesired mesh sheet of the same material is removed by a post-treatment process.

In contrast, claim 1 discloses a method for free-form fabrication of solid three-dimensional objects comprising, *inter alia*, separately ink-jetting a first ink-jettable composition including a reactive build material and a second ink-jettable composition including a curing agent onto a substrate. Following ink-jetting, a reaction occurs between the reactive build material and the curing agent, thereby resulting in the formation of a solidifying composition. This step is repeated to form and successively bind multiple layers of the solidifying composition one to another to form the solid three-dimensional object. During the forming process, a removable material is applied to at least a portion of the build platform or substrate prior to ink-jetting the first ink-jettable composition onto the removable material. The removable material is comprised of material other than the reactive build material and the curing agent which supports at least a portion of the solidifying composition. This material, or another similar removable material, can also be used to support overhangs. Similarly, claim 13 has been amended to require a removable material as part of the system.

Conversely, as noted above, Patel uses an enclosure having a platform to contain the deposited layer of the first material. The enclosure is not designed to compensate for objects having a second layer larger than the first layer. Meaning, in order for complex shapes to be formed, i.e. the second layer overhangs the first layer, a support material is needed to support any overhang or complex structure of the second layer. The support material referred to in Patel is a mesh sheet being fabricated from the same material as the three-dimensional article. Alternatively, Patel may cure only a portion of the primary layer and then apply a second layer of material atop of the cured and non-cure material, whereby the uncured portion of the primary layer may support the second layer and be removed once the second layer fully cures. Both of these processes, however, are less efficient than the present invention because they waste building material. The current process differs in many ways as previously mentioned.

Furthermore, the build platform in Patel is a rigid platform that can not be removed to accommodate for complex structures. The removable material used in the present invention is not the rigid build platform as the present specification makes clear. Specifically, the application discloses that a removable material is applied by ink-jet pen

or other depositing technique, and is used to separate the solid three-dimensional object from the build platform, and/or is applied to support overhanging features of the solid three-dimensional object. As such, Applicants submit that the cited reference does not teach each and every element of the claimed invention and it would not have been obvious by one skilled in the art to modify the present invention to include the elements of the presently claimed invention since the reference lacks any teaching or suggestion of such elements. Accordingly, Applicants respectfully request withdrawal the rejection of claims 1 and 13, and all dependent claims depending therefrom.

Regarding claim 22, as a solid object is claimed, the removable material is not mentioned in the claim language. Instead, the claim has been amended to include that each of cyan, magenta, and yellow colorant is present in the solid three-dimensional object. Support for this amendment was cited previously. As claim 22 has been amended, this rejection is believed to have been rendered moot. However, it will be discussed further below with respect to the rejection of Patel in view of Russell. Withdrawal of this rejection is respectfully requested.

Rejections over Patel in view of Russell

Claims 20, 21, and 27 were rejected under 35 U.S.C. 103(a) as being unpatentable over Patel in view of Russell. Because claims 20 and 21 depend from claim 13, it is assumed that these claims will be allowable along with claim 13. Further, the Applicant has canceled claim 27 and incorporated the limitation of claim 27 into claim 22, as well as a further limitation that each of cyan, magenta, and yellow be present in the claimed object. The Examiner has cited Russell which discloses a system that incorporates color inkjet technology in the binder cartridge, thereby providing the capability of printing colors or ink. See column 10, lines 2-4. The three-dimensional part in Russell is built from a powder build material and a curing binder. Russell also teaches that the curing binder can contain a color ink. Further, the powder build material is white or colorless and can absorb the ink colored binder to color the powder. The result is a three-dimensional part which has a color. The addition of the colorant, i.e. dye or pigment, is always included in the liquid binder and not the powdered build material.

Alternatively, claim 22 sets forth "a solid three-dimensional object, comprising multiple layers of a solidifying composition bound to one another, each of said multiple

layers formed by contacting a first ink-jettable composition containing a reactive build material with a second ink-jettable composition containing a curing agent, said curing agent being reactive with the reactive build material such that the solidifying composition is formable, said solid three-dimensional object including cyan, magenta, and yellow colorant."

Applicants submit that it would not be obvious under Patel in view of Russell to include cyan, magenta, and yellow colorants to an ink-jettable composition to form a full color solid three-dimensional object, mainly because the composition in Russell differs from Patel in that Russell requires the use a powder build material that absorbs a binder or curing agent containing a colorant. Further, the object formed by the Russell process is fundamentally different than the object formed as claimed. Wetting a powder with a curing agent (with a colorant) results in different compositional characteristics than combining two liquids (at least one of which includes colorant) to form a solid object. As an example, the process Russell would result in an object more similar to a cement-like object having particulates bound together. Conversely, the present claims set forth an object that does not use a powder bed and would result in a less grainy or particulate structure. Combining Russell with Patel might be more applicable with respect to the powder embodiment in Patel, but would not lead one skilled in the art to modify the liquid-liquid embodiments of Patel as described by the Examiner. Accordingly, the Applicants assert that the combination of Patel in view of Russell does not render the currently claimed invention obvious. Reconsideration on these grounds is respectfully requested.

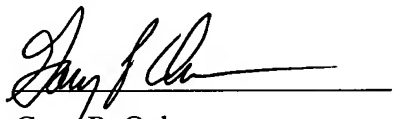
CONCLUSION

In view of the foregoing, Applicants believe that claims 1-26 present allowable subject matter and allowance is respectfully requested. If any impediment to the allowance of these claims remains, and such impediment could be resolved during a telephone interview, the Examiner is invited to telephone the assignee's counsel, W. Bradley Haymond at (541) 715-0159, so that such issues may be resolved as expeditiously as possible.

Please charge any additional fees except for Issue Fee or credit any overpayment to Deposit Account No. 08-2025.

Dated this 22nd day of July, 2005.

Respectfully submitted,



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